

**METHOD AND APPARATUS FOR ENHANCING THERMAL STABILITY,
IMPROVING BIASING AND REDUCING DAMAGE FROM ELECTROSTATIC
DISCHARGE IN SELF-PINNED ABUTTED JUNCTION HEADS HAVING A
SECOND HARD BIAS LAYER DISPOSED AWAY FROM THE FREE LAYER**

5

ABSTRACT

A method and apparatus for enhancing thermal stability, improving biasing and reducing damage from electrical surges in self-pinned abutted junction heads. The head includes a sandwiched hard bias layer having a first hard bias layer coupled to a free layer
10 and a second, anti-parallel hard bias layer disposed away from the free layer to provide a net longitudinal bias on the free layer.